NEW HAMPSHIRE WATER SUPPLY AND POLLUTION CONTROL COMMISSION

LAKE TROPHIC DATA

MORPHOMETRIC:

LAKE	Nottingham Lake	LAKE AREA (HA)	14.64
TOWN	Nottingham	MAXIMUM DEPTH (M)	2.6
COUNTY	Rockingham	MEAN DEPTH (M)	1.2
RIVER BASIN	Coastal	VOLUME (M^3)	180,000
LATITUDE	45° 07'N	MUD SURFACE AREA (HA)	12.00
LONGITUDE	71° 03'W	RELATIVE DEPTH	0.6
ELEVATION (FT)		SHORE CONFIGURATION	
SHORE LENGTH (M)		AREAL WATER LOAD (M/YR)	88.51
WATERSHED AREA (HA)	2686.8	FLUSHING RATE (YR^{-1})	72.0
% WATERSHED PONDED	4.0%	PHOSPHORUS RETENTION COEFF.	0.25

BIOLOGICAL: DATE	27 JAN 1986	9 AUG 1985
DOM. PHYTOPLANKTON (% total) 1	Asterionella (60%)	Filamentous blue-green (60%)
2		
NUMBER OF ALGAL GENERA	9	7
SPECIES DIVERSITY		1.74
CHLOROPHYLL a (µg/L)		3.68
DOM. ZOOPLANKTON (% total) 1	None observed	Nauplii larvae (45%)
2		Polyarthra (45%)
ROTIFERS/LITER		148
MICROCRUSTACEA/LITER		144
TOTAL ZOOPLANK. CNTS (cells/L)	< 1	292
VASCULAR PLANT ABUNDANCE		Very abundant
DOMINANT VASCULAR PLANTS 1		Utricularia
2		Potamogeton
3		
SECCHI DISK TRANSPARENCY (M)		2.1
BOTTOM DISS. OXYGEN (mg/L)	12.4	3.2
SEDIMENT: % ORGANIC MATTER		

LAKE TYPE: An artificial pond.

SUMMER THERMAL STRATIFICATION: YES ____ NO ____ WEAK X

IF YES, VOLUME OF HYPOLIMNION _____ (m^3) THERMOCLINE DEPTH ____ (m)

CHEMICAL: (mg/L unless indicated otherwise) LAKE: Nottingham Lake

	WINTER		SUMMER		
DATE	27 JAN 1986		9 AUG 1985		
DEPTH (M)	1.5		1.0	2.5	
pH (UNITS)	5.5		6.6	6.4	
ALKALINITY (I. P.)	0.76		3.4	3.4	
ALKALINITY (F.E.P.)	2.3		4.9	4.9	
NITRITE+NITRATE NITROGEN			< 0.05	< 0.05	
TOTAL KJELDAHL NITROGEN			0.43	0.40	
TOTAL PHOSPHORUS	0.020		0.018	0.020	
SPEC. CONDUCT. (µMhos/cm)	59.9		42.4	42.2	
APPARENT COLOR (UNITS)	60		70	80	
TRUE COLOR (440 nm)(UNITS)	NR		NR	NR	
MAGNESIUM			0.49		
CALCIUM			1.5		
SODIUM			6		
POTASSIUM			< 0.5		
CHLORIDE			8	8	
TN : TP			24	20	
INORG-N : INORG-P					
[Mg+Ca] : [Na+K]					
CALCITE SATURATION INDEX			4.0		

* = NOT DEFENSIBLE NR = NO RESULT

TROPHIC CLASSIFICATION: 1985

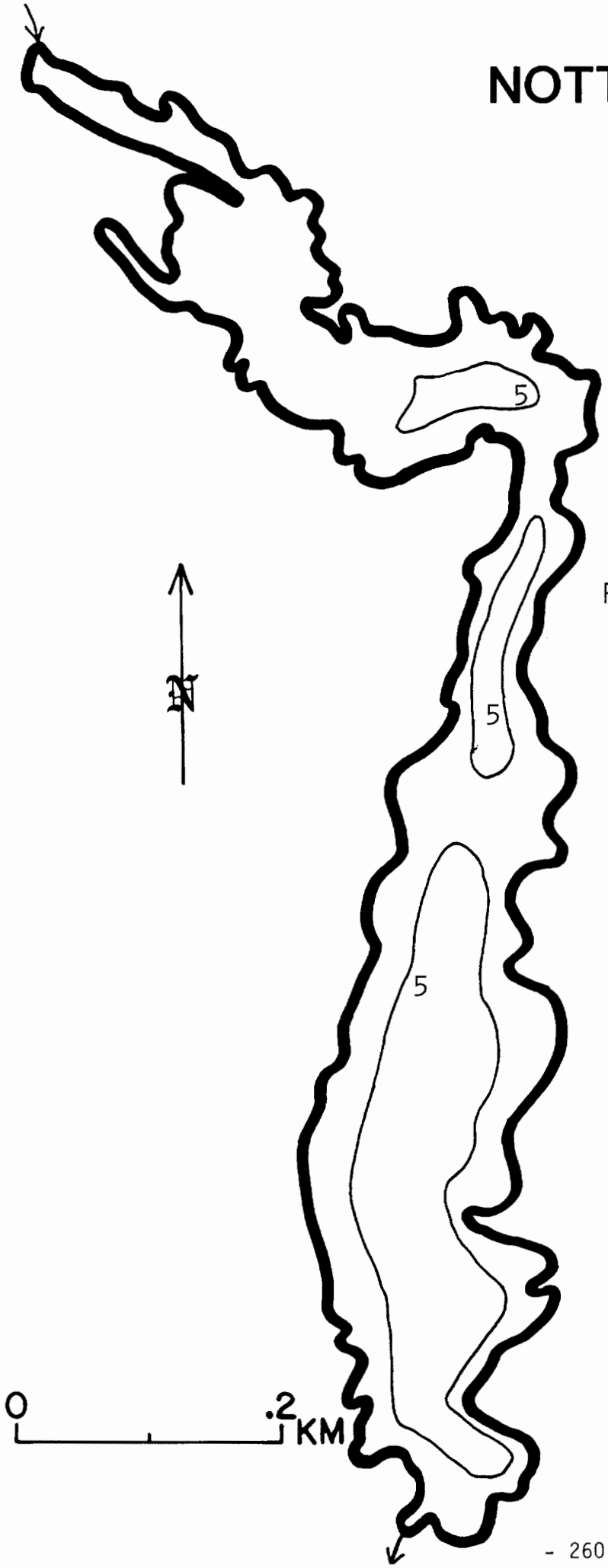
	D.O.	S.D.	PLANT ABUND.	CHL a	TOTAL PTS.	TROPHIC CLASS.
CLASSIFICATION POINTS:	-	2	4	0	6	Meso.

COMMENTS:

1. Winter sampling was conducted during the January thaw; high flows at the outlet; may be the cause of lower pH and alkalinity in the winter.

NOTTINGHAM LAKE

NOTTINGHAM



ROUGH BATHYMETRIC CHART
WSPCC - 1985
SOUNDED BY FATHOMETER

5 FT ISOBATHS

FIELD DATA SHEET

WATER BODY Nottingham Lake TOWN Nottingham BY WSPCC

DATE COLLECTED 9 August 1985 WEATHER Sunny, hot, humid; no breeze

STATION	DEPTH (M)	TEMP. (°C)	*DISSOLVED OXYGEN	OXYGEN: % SATURATION			
DEEP SPOT	0.1	26.0	8.0	100%			
	1.0	23.3	8.0	100%			
	2.0	21.7	3.2	37%			

SECCHI DISK (M) 2.1

BOTTOM DEPTH (M) 2.6

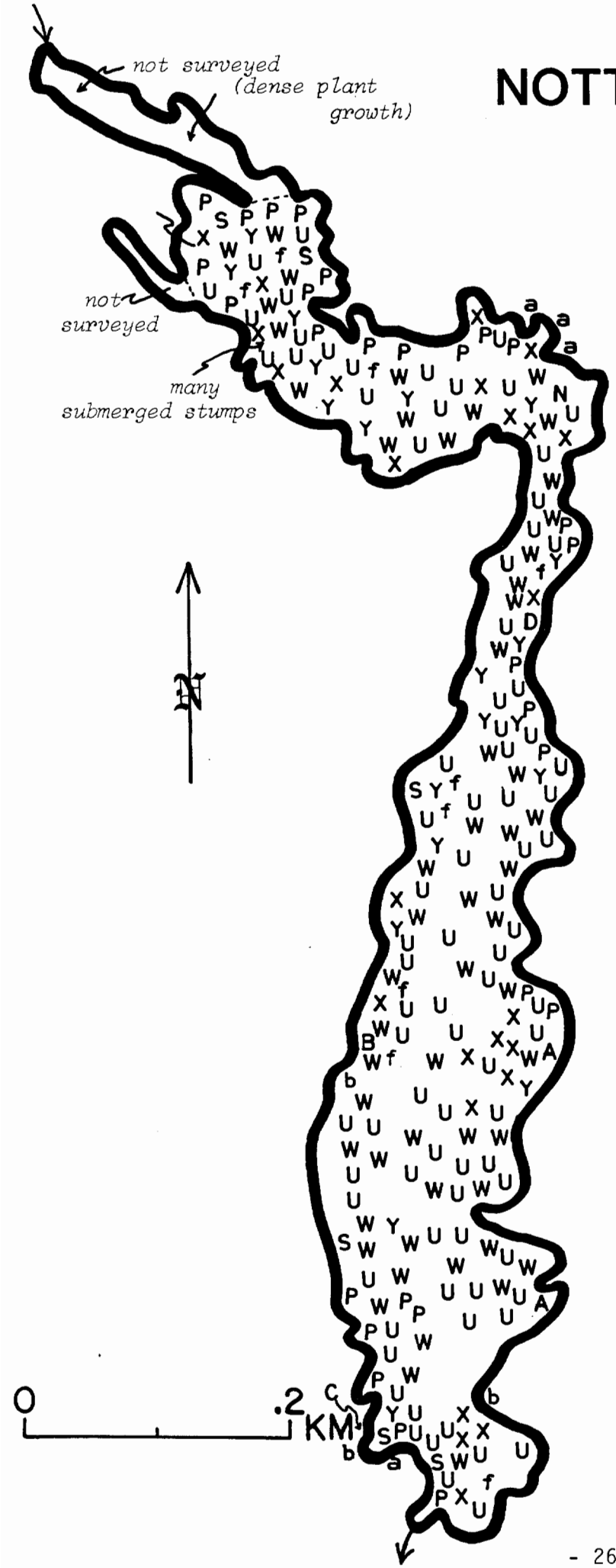
TIME 1115 hrs.

COMMENTS:

* Dissolved oxygen values in mg/L

NOTTINGHAM LAKE

NOTTINGHAM



AQUATIC PLANTS
9 AUG 1985

AQUATIC PLANT SURVEY

LAKE Nottingham Lake TOWN Nottingham DATE 9 AUG 85 BY WSPCC

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
X		Sterile, thread-like leaves	Abundant
P	Pontederia cordata	Pickerelweed	Common
U	Utricularia	Bladderwort	Very abundant
Y	Nuphar	Yellow water lily	Common
W	Potamogeton	Pondweed	very abundant
S	Sparganium	Bur reed	Common
N	Nymphaea	White water lily	Sparse
f	Spirogyra	Filamentous green algae	Abundant
D	Dulichium arundinaceum	Three-way sedge	Sparse
B	Brasenia schreberi	Water shield	Sparse
b	Scirpus cyperinus	Bulrush	Common
C	Carex	Sedge	Sparse
A	Sagittaria	Arrowhead	Scattered
a	Clethra alnifolia	Sweet pepperbush	Common

OVERALL ABUNDANCE Very abundant

GENERAL OBSERVATIONS:

1. Pondweeds and bladderwort were present over almost the entire lake bottom.
2. Emergents plants were not abundant; floating plants were common, submerged plants were very abundant.
3. At least 3 species of pondweeds were observed.
4. Although not indicated on the map because they weren't in the water, sweet pepperbush was common around much of the shoreline-and were very fragrant.
5. Sponge and painted turtles were observed.
6. The filamentous algae was mostly Spirogyra, but other genera were also present.